REMARKS

Claims 1-30 are pending in the application. All pending claims appear to have been deemed unpatentable pursuant to 35 U.S.C. § 103(a) as being obvious over International Patent Application Publication WO 01/08414 by *Lauper* (as explained with the English language reference to US Patent 6,803,887) in view of U.S. Patent 6,522,312 to *Ohshima et al.* The Office Action explains the rejections for claims 1-5, 7-9, 11-13, 15, 17-20, and 22-25 with respect to the cited art. However, the reasons for rejecting claims 6, 10, 14, 16, 21, and 26-30 are not provided, or appear as an omnibus rejection of the recited subject matter. Applicant respectfully requests consideration of the subject matter of all claims, and earnestly solicits allowance of the application in light of the following remarks

Rejection Under 35 U.S.C. § 103(a)

Independent Claim 1

Applicant respectfully submits that claim 1 would not be obvious in light of the *Lauper* and *Ohshima* combination. In the method of claim 1, visual markers are positioned proximate an object in a working environment of the operator. Information that identifies a visual marker is stored in a database with data related to the corresponding object. An image is received, and visual markers within the received image are automatically detected. In response, data having a predefined association with the corresponding object is selected from the database and is displayed. The data is selected according to the identification information for the detected visual marker. Therefore, in claim 1, data associated with an

object within a field of view of the operator may be viewed. Applicant submits that the *Lauper* and *Ohshima* combination does not disclose or fairly suggest the limitations of claim 1.

First, *Lauper*, in contrast to the limitations recited in claim 1, describes that a selected picture segment data is derived from an overall projected picture. (col. 4, ll. 14; col. 5, ll. 41-47). The selected picture segment data is processed so that "pictures of objects 2 contained in the selected picture segment data are worked out therefrom" to identify "the most central or the largest object in relation to the picture segment." (col. 5, ll. 47-55). The object is identified from the pictures with the aid of object identification information. (col. 5, ll. 51-55). Accordingly, no visual markers are positioned proximate the objects. Instead, *Lauper* identifies the object itself.

Next, *Ohshima*, in contrast to claim 1, relates to a mixed reality system in which a magnetic sensor and CCD camera attached to a user's head provide a view point of the user. (Ohshima, Abstract). *Ohshima* describes a system in which a CCD camera senses a marker to correct a signal of the magnetic sensor. (col. 12, ll. 1-8; col. 13, ll. 41-53). In *Ohshima*, the signal of the magnetic sensor represents the head posture of the user. (col. 12, ll. 1-8; col. 13, ll. 41-53). The corrected signal provides for a correction calculation to display a virtual image at a correct view point for the user. (col. 18, ll. 20-56). Accordingly, *Ohshima* senses a marker to correct the view point of the virtual image displayed to the user. The *Lauper* and *Ohshima* combination, therefore, suggests that information related to an identified object will be displayed at a correct view point. The object is identified by processing the picture to

work out the object. The correct view point is determined by using a CCD camera to sense a marker to correct signal of the magnetic sensor representing the head posture of the user.

The *Lauper* and *Ohshima* combination does not disclose or fairly suggest the limitations of claim 1. In particular, the cited combination does not describe or even suggest to select data according to identification information for an automatically detected visual marker associated with and "proximate an object within the field of view of the human operator." The cited combination does not describe or suggest storing information for a visual marker positioned proximate an object with data corresponding to that object. The markers in the cited combination are detected solely to correct the signal for displaying a virtual image. There is no suggestion that the markers in the cited combination may be positioned proximate objects, or that the markers have identification information that is stored with object data.

Rather than leading a person having skill in the art to the invention of claim 1, the cited combination teaches away from claim 1. That is, the *Lauper* and *Ohshima* combination eliminates positioning visual markers, detecting visual markers, and storing identification information for visual markers by identifying the object itself. *Lauper* identifies an object in a picture to derive object identification information and uses that object identification information to take associated object information from the database. Since the object in the picture is identified, a person of ordinary skill in the art would not position visual markers proximate an object so that they may be received and detected in an image of the field of view of an operator. Moreover, since *Lauper* describes that object identification information

may be used to take associated object information from the database, a person skilled in the art would not use identification information for a detected visual marker to select data for corresponding object from a database. Rather, the person skilled in the art would process the picture of the object as described by *Lauper* to identify the object and to take associated object information from the database. Therefore, the cited combination would lead a person having skill in the art away from the invention of claim 1. Applicant respectfully submits that claim 1 would not be obvious in light of the cited art.

Independent Claim 10

The Office Action does not appear to recite any reasons for rejecting claim 10 in light of the cited art, or at best includes the rejection of claim 10 in an omnibus rejection. That is, there is no comparison of the actual limitations recited in claim 10 to the cited art. There is no explanation where the cited art describes or suggests "determining a unique identifier associated with a marker," "obtaining a physical location of the marker maintained in a database located on a memory storage," or even "determining the location of the operator based on the location of the one or more markers," as recited in claim 10. Applicant respectfully request consideration of the limitations of claim 10, and as described below, submit that claim 16 would not be obvious in light of the cited art.

In contrast to the cited art, independent claim 10 relates to a method for coordinating the movement of human workers in a working environment. In the method, objects in the working environment are labeled with a visual marker. An image is received, and visual markers within the received image are automatically detected. In response, a unique

identifier associated with the detected marker is determined. As a result, the physical location of the marker is obtained from a database on a memory storage. The database stores predefined associations of unique identifiers and locations of the visual markers. Based on the determined location of the detected marker, the location of the operator is determined. Accordingly, the movement of human workers in a working environment is coordinated by determining the location of an operator by detecting a marker in the field of view of the operator.

The *Lauper* and *Ohshima* combination, on the other hand, does not disclose or fairly suggest the limitations of claim 10. As discussed, the cited combination does not describe or fairly suggest automatically detecting visual markers within a received image where the visual marker is associated with, and proximate to, an object. The cited combination does not describe or suggest identifying the marker or determining a unique identifier associated with a marker. Moreover, determining the physical location of the marker is never described or even suggested in the cited combination. Since the location of a marker is not described or fairly suggested, determining the location of the operator based on the determined location of a marker is clearly not described or suggested. Instead, in the cited combination, markers are identified merely to provide a correction for a display of a virtual image. The cited combination does not identify markers to determine the location of an operator.

Moreover, the cited combination teaches away from the limitations of claim 10. As discussed, the cited combination eliminates visual markers and instead, describes identifying an object in a picture to derive object identification information. Since the object in the

picture is identified, a person of ordinary skill in the art would not position visual markers proximate an object so that they may be received and detected in an image of the field of view of an operator. The cited combination would not lead to the limitations of claim 10.

In addition, *Lauper* describes that a position determining means, such as a GPS, provides the current geographic position of the user. The position is used to influence the context for determining the information taken from the database. Therefore, the position of the user in the cited combination is known and does not need to be determined. Since the GPS provides the position of the user, a person having skill in the art would not use a unique identifier of a marker detected in an image to determine the location of the worker. Rather, the location of the user is determined directly using the GPS without "determining the unique identifier of a marker," "obtaining the physical location of the marker maintained in a database," or "determining the location of the operator based on the location of the one or more markers within the field of view of the camera."

With respect to the rejection of claims 11 and 12, the Office Action asserts that it would have been obvious for one of ordinary skill in the art to use the current marker location as an alternative to a GPS system to reduce the manufacturing cost. However, there is no description or suggestion in the art that such would result in a reduced manufacturing cost, or that a person skilled in the art would be motivated by a reduced manufacturing cost. That is, the GPS system discussed in *Lauper* already provides a quick and low-cost determination of the location of the operator, without detecting one or more markers within the field of view of the camera as recited in claim 10. Even more fundamentally, since

Lauper describes using a determined geographic position of a user to take or influence the taking of information from a database, it is counterintuitive that one skilled in the art would look to the database to determine his/her location. The user already has that information and would not look to a database using a unique identifier of a detected marker. Accordingly, Applicant submits that the cited combination would not lead a person having skill in the art to the invention of claim 10. Applicant respectfully requests reconsideration of claim 10

Independent Claim 14

Applicant respectfully submits that claim 14 would not be obvious in light of the *Lauper* and *Ohshima* combination. In the system of claim 14 a wearable computer system has logic that detects visual markers within the field of view of the camera, and in response, determines an identifier associated with the marker. The identifier is wirelessly transmitted to a computer network and predefined data associated with the identifier is received from from the computer network. A memory storage in communication with the network store the identifier associated with the visual markers with the predefined data associated with the identifier. The memory storage provides the predefined data in response to receiving the identifier. The system also includes a wearable display for the predefined data. Accordingly, in the system of claim 14, data associated with an object within a field of view is displayed for an operator. Applicant submits that the *Lauper* and *Ohshima* combination does not disclose or fairly suggest the limitations of claim 1.

As discussed with claim 1, the cited combination describes or suggests displaying information for an identified object at a correct view point. The *Lauper* and *Ohshima* combination does not disclose or fairly suggest storing an identifier associated with the visual markers, or providing predefined data associated with the identifier in response to receiving the identifier. Indeed, the cited combination does not describe or suggest visual markers proximate objects or that the markers have identification information.

Moreover, instead of suggesting the limitations of claim 14, the cited combination would lead a person of ordinary skill in the art away from the invention of claim 14. As discussed, the *Lauper* and *Ohshima* combination eliminates positioning visual markers, detecting visual markers, and storing identification information for visual markers because the object itself is identified to derive object identification information. The person skilled in the art would process the picture of the object as described by *Lauper* to identify the object, and to take associated object information from the database. Applicant, therefore, respectfully submits that claim 14 would not be obvious in light of the cited art.

Dependent claims 2-9, 11-13 and 15-30

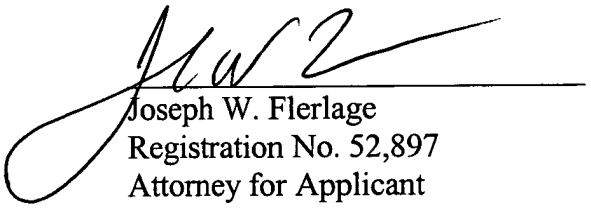
For similar reasons, the cited art fails to disclose or suggest the limitations of claims 2-9, 11-13 and 15-30. As discussed above, the cited combination does not disclose or suggest the limitations independent claims 1, 10, and 14. The cited art therefore also fails to disclose or suggest the claims which depend therefrom.

CONCLUSION

In view of the foregoing, Applicant respectfully requests withdrawal of the pending rejection, and favorable consideration and allowance of all pending claims. If the examiner believes that a telephone conference would expedite allowance of the application, the examiner is invited to call the undersigned.

Respectfully submitted,

February 22, 2006



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